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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/597,352	08/31/2006	Hideo Kitamura	UNIU95.001APC	9778

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KNOBBE MARTENS OLSON & BEAR LLP
2040 MAIN STREET
FOURTEENTH FLOOR
IRVINE, CA 92614

EXAMINER

PHILOGENE, HAISSA

ART UNIT	PAPER NUMBER
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2821

NOTIFICATION DATE	DELIVERY MODE
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03/18/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

jcartee@kmob.com
efiling@kmob.com
2ros@kmob.com

Office Action Summary	Application No.	Applicant(s)	
	10/597,352	KITAMURA ET AL.	
	Examiner	Art Unit	
	Haissa Philogene	2821	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07/21/2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,4,6,8,10,11,19,20 and 22 is/are rejected.
- 7) ☒ Claim(s) 2,5,7,9,12-18,21 and 23 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 July 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>3/8/10; 7/21/06</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

The disclosure is objected to because of the following informalities: In page 10, line 11, change "an" to --a--. Appropriate correction is required.

Claim Objections

Claims 1, 2, 5, 6, and 13-23 are objected to because of the following informalities: In Claim 1, line 1, delete "characterized by". In Claims 2 and 5, line 2, respectively, change "an" before "gap" to --a--. In Claims 5, 6 and 13-17, line 1, respectively, add --further--before "comprising". In Claim 8, line 2 and Claims 18-23, line 1, respectively, change "characterized in that" to --wherein--. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3, 4, 6, 8, 10, 11, 19, 20 and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Stefan et al., XP-002561711, cited by Applicant.

As per claim 1, Stefan discloses in Fig.1 an undulator having in the upper part a first magnetic circuit (magnetic arrays), and a first support body (support beam) supporting the magnets; in the lower part a second magnetic circuit (magnetic arrays), a second support body (support beam) supporting the magnets, a space (between the

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first and the second magnetic circuits), a vacuum chamber (as labeled) and a cooling mechanism (cooling lines and water-cooling channels) (see also page 417).

As per claims 3 and 4, Stefan further discloses in Fig.1 the cooling mechanism comprising in the upper part a cooling line readable as a well-known refrigerant passing tube passing through water-cooling channels of a tubular column and support body to cool the first magnetic circuit (magnetic arrays) for passing a cooling means or refrigerant; in the lower part a second cooling line readable as a well-known refrigerant passing tube passing through water-cooling channels of a tubular column and support body to cool the second magnetic circuit (magnetic arrays) for passing a cooling means or refrigerant ; said first and second refrigerant passing tubes being fixed to or penetrating the inside of first and second support bodies, respectively to effectively water-cool the magnet arrays (see Col.1, section 2. Description of IVUN, lines 4-5 and Col.2, lines 1-11).

As per claims 6, 10 and 11, Stefan further discloses in Fig.1 in the upper part a hollow part being formed in the tubular column readable as a first support shaft for supporting the first support body and in the lower part one being formed in the tubular column readable as a second support shaft for supporting the second support body (as shown).

As per claims 8, 19, 20 and 22, Stefan further discloses in Fig.1 each said support body having a holder (shown as magnetic arrays) for mounting the permanent magnet and a holder support (support beam) for supporting the holder, and a material of the holder having an inherent thermal expansion coefficient equal to that of the holder support, as

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part of a four-block pure-permanent-magnet structure with NdFeB material (see also page 417, Col.2, lines 12-14).

Allowable Subject Matter

Claims 2, 5, 7, 9, 12-18, 21 and 23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Shenoy et al., Patent No. 6,858,998; Gottschalk, Patent No. 6,573,817;
Emanuelson et al., Patent No. 4,523,168; Ohsura et al., Patent No. 4,912,737.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Haissa Philogene whose telephone number is (571) 272-1827. The examiner can normally be reached on 8:30 A.M.-6:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas W. Owens can be reached on (571)272-1662. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Haissa Philogene/
Primary Examiner, Art Unit 2821